

Application Number 10/698,216
Amendment responsive to Office Action mailed April 5, 2007

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method for treating fecal incontinence comprising:
implanting a bulking prosthesis in tissue proximate to an anal sphincter using a tubular instrument having a distal end and an opening at the distal end,
wherein the bulking prosthesis is in a miniature state at the time of implantation and assumes an enlarged state after implantation,
wherein in the miniature state, the bulking prosthesis has a bulking prosthesis width approximately equal to a width of the opening at the distal end.

Claim 2 (Original): The method of claim 1, wherein the tissue comprises at least one of a submucosa and a musculature underlying the submucosa.

Claim 3 (Original): The method of claim 1, wherein implanting the bulking prosthesis comprises:
penetrating a mucosa proximate to the tissue with a syringe needle; and
implanting the bulking prosthesis in the tissue through the syringe needle.

Claim 4 (Previously Presented): The method of claim 1, wherein implanting the bulking prosthesis comprises:
drawing a mucosa away from a musculature underlying a submucosa;
forming a pocket in one of the submucosa or the musculature; and
implanting the bulking prosthesis in the pocket.

Application Number 10/698,216

Amendment responsive to Office Action mailed April 5, 2007

Claim 5 (Previously Presented): The method of claim 4, wherein drawing the mucosa away from the musculature underlying the submucosa comprises applying vacuum pressure to an instrument proximate to the mucosa.

Claim 6 (Previously Presented): The method of claim 4,
wherein forming the pocket in one of the submucosa or the musculature comprises inserting a needle through the mucosa, thereby forming a hole in the mucosa, and implanting the bulking prosthesis in the tissue through the hole.

Claim 7 (Original): The method of claim 1, wherein the bulking prosthesis comprises a hydrogel.

Claim 8 (Original): The method of claim 1, wherein the bulking prosthesis comprises a material that absorbs fluid from the tissue to assume the enlarged state.

Claim 9 (Currently Amended): A system comprising:
a needle to make a hole through a mucosa proximate to an anal sphincter;
a tubular instrument having a distal end and an opening at the distal end; and
a pushing agent to push a bulking prosthesis through the tubular instrument and through the hole in the mucosa,

wherein the bulking prosthesis is in a miniature state at the time of implantation and assumes an enlarged state after implantation,

wherein in the miniature state, the bulking prosthesis has a bulking prosthesis width approximately equal to a width of the opening at the distal end of the tubular instrument.

Claim 10 (Original): The system of claim 9, further comprising:

a source of vacuum pressure; and

a conduit to deliver the vacuum pressure from the source to the mucosa.

Application Number 10/698,216

Amendment responsive to Office Action mailed April 5, 2007

Claim 11 (Original): The system of claim 10, wherein the conduit comprises a distal end with a cavity at the distal end to receive the mucosa when the cavity is positioned proximate to the mucosa and the vacuum pressure is delivered to the mucosa.

Claim 12 (Original): The system of claim 9, wherein the tubular instrument comprises the needle.

Claim 13 (Original): A device comprising:

a bulking prosthesis in the shape of a partial cylinder having an inner radius,
wherein the bulking prosthesis comprises a hydrophilic polymer that forms a hydrogel in the presence of water, and

wherein the inner radius of the partial cylinder is sized to conform to close the anus of a patient when the bulking prosthesis is implanted in the patient with an inner surface coaxial with the anus of the patient and when the patient exercises voluntary control over an external sphincter.

Claim 14 (Original): The device of claim 13, wherein the bulking prosthesis has a substantially half-cylinder shape.

Claim 15 (Previously Presented): The device of claim 13, wherein the bulking prosthesis assumes one of a miniature state and an enlarged state, and the bulking prosthesis assumes the shape of the partial cylinder in the enlarged state.

Claim 16 (Original): The device of claim 13, further comprising a Dacron mesh surrounding the hydrophilic polymer.

Claim 17 (Original): The device of claim 13, further comprising a radiopaque material.

Application Number 10/698,216

Amendment responsive to Office Action mailed April 5, 2007

Claim 18 (Previously Presented): A device comprising:
a rod-like bulking prosthesis having a sharpened tip,
wherein the bulking prosthesis comprises a hydrophilic polymer that forms a hydrogel in the presence of water,
wherein the rod-like bulking prosthesis assumes an enlarged state in the presence of water, and wherein the rod-like bulking prosthesis has a length of at least ten millimeters when in the enlarged state.

Claim 19 (Previously Presented): The device of claim 18, wherein the sharpened tip comprises at least one of a conical tip, a needle-like tip or a wedge-shaped tip.

Claim 20 (Original): The device of claim 18, further comprising a helical thread around the rod-like bulking prosthesis.

Claim 21 (Previously Presented): The device of claim 18, and wherein the rod-like bulking prosthesis has a length of at least twenty millimeters when in the enlarged state.

Claim 22 (Currently Amended): A method for manufacturing a bulking prosthesis comprising:
providing a rod-like bulking prosthesis that comprises a hydrophilic polymer that forms a hydrogel in the presence of water, wherein the bulking prosthesis assumes an enlarged state in the presence of water;
forming a sharpened tip on an end of the bulking prosthesis; and
machining a helical thread around the bulking prosthesis.

Claim 23 (Original): The method of claim 22, further comprising forming a slot in the bulking prosthesis.

Claim 24 (Canceled).

Application Number 10/698,216

Amendment responsive to Office Action mailed April 5, 2007

Claim 25 (Previously Presented): A method for implanting a bulking prosthesis comprising:
implanting a rod-like bulking prosthesis in a miniature state at the time of implantation and having a sharpened tip proximate to an anal sphincter, the bulking prosthesis engaged with an application device; and
withdrawing the application device, wherein the bulking prosthesis assumes an enlarged state after implantation.

Claim 26 (Original): The method of claim 25, further comprising disengaging the bulking prosthesis from application device.

Claim 27 (Original): The method of claim 25, further comprising rotating the bulking prosthesis with the application device.

Claim 28 (New): The method of claim 25, wherein the rod-like bulking prosthesis has a length of at least twenty millimeters when in the enlarged state.